

FACTS & FIGURES

Domestic

	WEEKLY	11/27/82	11/20/82	11/26/81
Production				
Bituminous, recent week		11,548	11,581	16,819
Bituminous, year to date		748,188	738,598	—
Anthracite, recent week		63	86	138
Anthracite, year to date		4,794	5,006	—
Railroad carloadings				
Bituminous, recent week		78,382	106,780	105,940
Bituminous, year to date		5,180,842	5,128,234	—
Anthracite, recent week		45	90	400
Anthracite, year to date		9,572	16,437	—

Production data in thousands of short tons.
Source: U.S. Dept. of Energy, Energy Information Administration—Weekly Coal Report.

	MONTHLY	9/82	8/82	9/81
Bituminous and Lignite				
Consumption		48,332	54,060	48,385
Electric power utilities		164,953	165,182	138,808
Coal user stocks of coal				
Electric power utilities		5,896	5,791	5,428
Anthracite				
Consumption		87	95	98
Electric power utilities				
Coal user stocks of coal				
Electric power utilities				

Note: Data give in thousands of short tons.
Source: U.S. Dept. of Energy Information Administration—Weekly Coal Report.

	WEEKLY	11/27/82	11/20/82	11/26/81
Production by states, bituminous and lignite				
Alabama		373	504	537
Georgia		—	—	—
Illinois		859	1,159	1,123
Indiana		423	570	670
Kentucky		—	—	—
Eastern		1,521	2,052	2,501
Western		521	703	858
Total, Ky.		2,042	2,755	3,357
Maryland		58	78	85
Ohio		535	722	780
Pennsylvania		1,084	1,463	1,860
Tennessee		113	152	170
Virginia		549	741	908
West Virginia		1,803	2,432	2,220
Total, Eastern		7,837	10,574	11,718

Western				
Alaska		11	15	17
Arizona		155	209	254
Arkansas		3	4	4
Colorado		268	361	373
Iowa		8	11	15
Kansas		13	1725	—
Missouri		70	95	120
Montana		394	532	555
New Mexico		246	333	425
North Dakota		261	352	328
Oklahoma		78	103	115
Texas		485	627	720
Utah		225	304	220
Washington		65	87	90
Wyoming		1,451	1,957	1,840
Total Western		3,711	5,007	5,101
Total, United States		11,548	15,581	16,819

In short tons (000).
Source: U.S. Dept. of Energy, Energy Information Administration—Weekly Coal Reports.

	MONTHLY	10/82	9/82	10/81
Coal Labor				
All employees		225.8	229.3	251.8
Coal Mining		222.5	225.9	248.3
Production employees		182.9	186.1	208.2
Coal mining		180.0	183.1	205.0
Hours, weekly average		38.9	38.4	42.8
Coal mining		38.9	38.4	42.8
Earnings, hourly average		12.95	13.00	12.17
Coal mining		13.00	13.06	12.20
Earnings, weekly average		503.78	500.35	520.88
Coal mining		508.70	502.27	522.16

Source: U.S. Dept. of Labor, Bureau of Labor Statistics—Employment and Earnings.

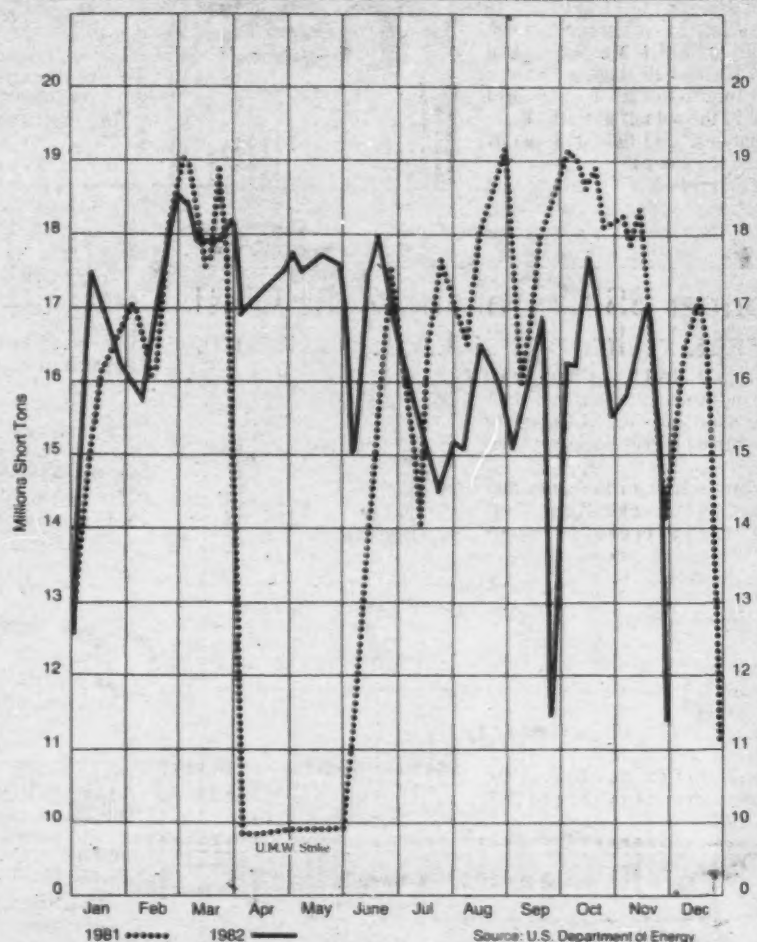
	MONTHLY	9/82	8/82	9/81
Coal Use: Production				
Major district users:				
Electric utilities		96,069	110,122	97,864
(Mil Kwh.)				
Monthly				

	MONTHLY	10/82	9/82	8/82
Price indexes				
Bituminous Coal and Lignite		105.0	105.1	103.8
Primary Products		103.9	104.2	103.8
Prepared		104.6	104.7	103.4
Steam electric utilities		105.2	105.6	103.7
North Appalachia		102.3	104.2	101.5
Spot		N.A.	116.4	91.2
Contract		102.5	102.5	102.9
South Appalachia				
Contract		99.3	98.7	98.2
Midwest		108.5	109.3	108.6
Contract		110.8	110.7	109.6
West		109.1	109.0	105.1
Contract		109.1	109.0	105.1
Metallurgical/coke producer		101.9	101.8	102.6
High volatile		100.2	100.1	101.5
North Appalachia		97.2	97.2	99.7
Contract		97.2	97.2	N.A.
South Appalachia				
Contract		101.8	101.7	102.6
West		100.7	100.7	99.4
Low volatile		104.2	103.5	103.4
North Appalachia				
Contract		105.0	104.7	99.0
South Appalachia				
Contract		104.4	103.5	106.1
All other industrial		102.7	100.3	101.3
North Appalachia				
Contract		99.5	N.A.	93.9
Midwest				
Contract		107.2	106.0	103.1
Unprepared (raw)		101.8	102.6	105.2
For preparation at other establishments		N.A.	N.A.	N.A.
For use without preparation		N.A.	N.A.	N.A.
Anthracite		153.8	153.8	153.8
Primary products		152.5	152.5	152.5
Prepared anthracite shipped		154.5	154.5	154.5
Stove		151.1	151.1	151.3
Chestnut		150.9	150.9	150.9
Pee		160.3	160.3	160.3
Buckwheat no. 1		149.0	149.0	149.0
Buckwheat no. 2		160.8	160.8	160.8
Buckwheat no. 4		143.9	143.9	143.9
Buckwheat no. 5		112.0	N.A.	112.0
N.A.—Not Available				

Source: Bureau of Labor Statistics, Dept. of Labor.
Note: The Bureau of Labor Statistics has recalculated its producer price index figures for bituminous and lignite, as well as reorganizing its pricing categories. The new index is based on a compilation of average prices for December, 1981, and that month appears as 100. The former index used June, 1978 price as its base.

LATEST U.S. PRODUCTION

Estimated Bituminous Coal and Lignite



THE THANKSGIVING HOLIDAY cut bituminous coal and lignite production for the week ending Nov. 27 by 25.9 percent to 11.5 million short tons, a 4 million-ton decrease from the previous week. The corresponding week of 1981 was 16.8 million tons. Production for the year has reached 748.1 million short tons, a 1.3 percent increase. Figures are from the Energy Information Administration, Department of Energy.

	Quantity in short tons	10/82	9/82	10/81	Dollar Value	9/82	Avg. Value per short ton	10/81	10/82	9/82	10/81
Bituminous coal, others											
No. 5213120											
Belgium		65,225	120,903	112,425	2,840,204	4,307,909	4,581,885	43.54	35.82	40.75	40.75
Canada		1,835,915	1,477,985	1,843,945	83,895,989	74,253,779	86,889,028	51.02	50.23	47.01	47.01
China, Taiwan		181,708	314,710	268,884	8,122,406	14,181,857	11,069,108	44.70	45.06	41.16	41.16
Denmark		427,459	461,905	407,218	18,807,417	21,283,084	17,419,052	43.99	46.07	42.77	42.77
Finland		47,775	32,270	229,136	1,857,184	1,463,777	10,284,888	38.87	45.36	44.88	44.88
France		489,287	211,857	184,354	21,663,008	9,480,862	7,831,877	48.16	44.75	42.48	42.48
Germany, F.R. (West)		210,820	125,447	145,700	11,094,084	6,442,510	8,449,287	52.67	51.35	44.28	44.28
Italy		282,333	360,550	287,729	13,985,579	18,285,671	14,858,718	49.53	50.71	51.63	51.63
Japan		271,080	191,138	412,047	13,796,829	9,325,082	21,923,193	50.90	48.78	53.20	53.20
Netherlands		184,416	350,589	384,815	9,908,077	18,722,147	18,360,747	48.30	53.40	47.68	47.68
Spain		108,522	324,418	226,556	4,032,484	16,348,805	10,720,124	37.85	50.30	47.31	47.31
Total, above		4,082,321	3,971,771	4,502,807	198,793,241	184,770,008	210,175,855	48.00	46.52	46.87	46.87
Total, other nations		222,334	564,581	296,101	11,178,063	22,098,958	13,330,721	50.27	58.84	45.02	45.02
Total, all nations		4,304,655	4,536,352	4,798,908	209,971,324	206,868,967	223,506,576	48.77	48.80	46.87	46.87
Lignite No. 5213130											
Total, all nations		908	2,536	2,891	96,585	255,829	378,510	123.05	87.13	141.18	141.18
Coal coke for use as fuel											
No. 5213140											
Total, all nations		58,567	139,279	114,832	3,426,940	5,396,796	7,282,485	90.47	41.74	63.38	63.38
Petroleum cokes, except oilcoked No. 5213150											
Canada		47,035	53,961	122,026	1,919,871	2,909,804	7,477,367	40.81	55.59	61.27	61.27
Japan		273,423	238,930	209,210	10,271,458	10,118,088	10,983,348	37.56	42.34	52.40	52.40
Netherlands		127,507	179,257	151,494	5,575,563	10,006,907	18,350,747	43.72	55.82	121.13	121.13
Total, above		447,965	472,148	482,730	17,786,892	23,124,779	210,175,855	39.86	48.97	435.39	435.39
Total, other nations		618,983	316,913	280,394	20,149,716	7,995,493	13,330,721	32.55	25.22	47.54	47.54
Total, all nations		1,066,948	789,061	763,124	37,936,608	31,120,272	223,506,576	35.53	38.43	292.88	292.88
Compositions for fuel											
No. 5213160											
Total, all nations		495	58,810	1,821	41,080	2,712,843	154,638	83.01	48.78	101.32	101.32
Anthracite No. 5213170											
Korea Rep. (South)		77,180	33,089	186,654	2,413,900	1,080,000	8,421,454	31.28	32.85	38.53	38.53
Total, all nations		129,862	77,141	281,889	8,838,940	4,327,587	11,754,232	48.38	58.08	48.84	48.84

Exports & Imports

Bituminous coal, low volatile blends to make coke No. 5213118	Quantity in short tons				Dollar Value		Avg. Value per short ton			
	10/82	9/82	10/81	10/82	9/82	10/81	10/82	9/82	10/81	
Belgium	282,248	347,744	230,304	17,141,523	18,598,834	13,804,636	60.73	47.73	58.94	
Brazil	334,334	286,793	379,313	17,256,075	10,818,888	23,559,244	51.81	40.55	62.11	
Canada	937,875	376,596	752,516	82,102,630	25,168,829	45,014,504	68.23	60.83	59.81	
France	381,287	377,487	182,800	21,711,632	18,406,512	8,192,286	56.94	48.76	50.38	
Germany, F.R. (West)	76,931	205,481	311,085	4,089,526	10,540,589	17,852,879	52.68	51.34	56.83	
Italy	776,407	528,782	871,384	26,266,107	24,867,919	49,540,593	50.57	46.82	56.86	
Japan	1,533,082	1,119,332	2,593,067	94,259,202	83,108,821	153,058,887	61.48	58.38	59.02	
Netherlands	338,593	329,830	374,238	17,141,553	17,817,446	22,303,149	50.82	54.01	59.59	
Spain	183,858	221,333	321,931	9,813,514	18,408,558	18,488,471	50.82	47.03	57.43	
Sweden	314,657	154,817	179,830	17,084,977	8,015,507	10,290,985	54.23	51.77	57.28	
United Kingdom	—	198,090	221,791	—	8,437,968	12,341,066	—	53.37	55.84	
Yugoslavia	193,398	66,087	248,559	10,271,387	4,274,059	14,882,901	53.11	84.67	59.07	
Total, above	5,382,466	4,150,391	8,646,610	210,097,958	218,273,940	388,918,701	57.82	52.59	58.51	
Total, other nations	506,235	828,782	659,680	28,994,736	46,550,347	38,699,629	57.79	56.10	58.64	
Total, all nations	5,878,261	4,979,163	9,306,291	239,092,694	264,773,947	427,608,330	57.73	53.17	58.58	

COAL INDUSTRY NEWS

Coal's National Newspaper

BULK RATE
U.S. POSTAGE
PAID
Permit No. 332
Des Plaines, IL 60018

JANUARY 17, 1983

1301 Pennsylvania Ave., N.W., Washington, D.C. 20004

Volume 7, Number 1

\$1 a Copy; \$24 a Year

NEWS ROUNDUP

An international syndicate of 55 banks from six nations are lending \$950 million Canadian to Canada's Quintette Coal Ltd. for a British Columbia project to produce 5 million metric tons of coking coal annually beginning in 1984. Shipments will be to Japan for 15 years. Canada's Denison Mines Ltd. will own 50 percent of the project with the remaining 50 percent divided among the French state coal company, Charbonnages de France, and a nine-company Japanese consortium that includes Nippon Steel.

The Port of Charleston's new 2.5-million-ton coal terminal is complete and ready to load 2,500 tons per hour into 50,000 deadweight ton ships. The \$30 million Ship Yard River Terminal has ground storage for 300,000 tons and sits on 52 acres. It has a single ship berth at the confluence of the Cooper and Shipyard rivers.

Striving to earn hard currency and relieve a troubled economy, Poland's coal exports doubled to 28.5 million tons in 1982. The official news agency said shipments to hard-currency countries rose by 7.6 million tons. Eastern bloc countries received 5.8 million tons. A total of 189 million tons was mined during the year, a 25-million-ton increase from 1981.

Economics Laboratory, Inc. will close its chemical subsidiary June 30. The facility makes products used in the preparation, transportation and burning of coal. The decision to close the Apollo Technologies unit at Whippany, N.J. was made because "the market for flue gas preparations and other similar products hasn't been strong," says John

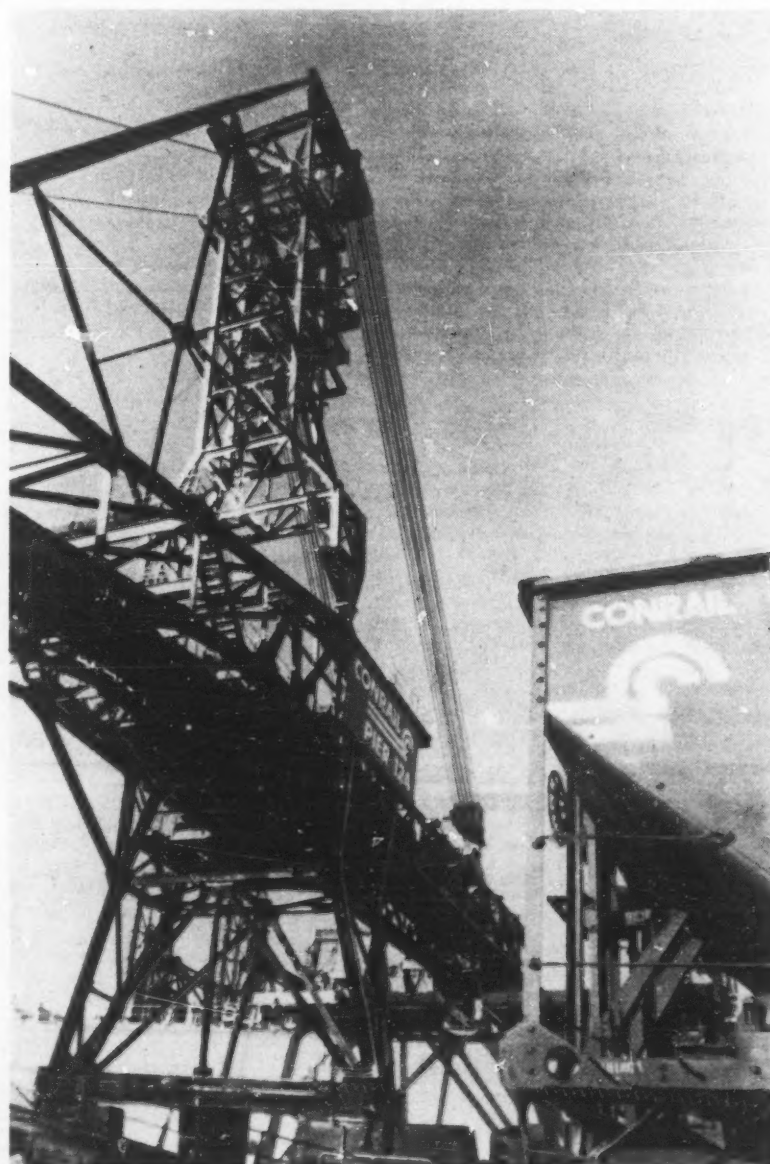
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INSIDE

NATIONAL MINE SERVICE Co. of Pittsburgh, faced with two acquisition-minded suitors, appears headed into Anderson-Strathclyde of Scotland. **Story on page 2.**

A VIRGINIA FARMER took a hard look at an easement request from an electric utility — and found a provision for a slurry line was included. That and other **Reports** from our Correspondents on page 3.

TECHNOLOGY AND CONVERSIONS appear the best possibilities for lifting U.S. coal out of the doldrums this coming year. Gene Smith explains why, and assesses other aspects of the 1983 outlook in a **Focus Feature** on page 6.



Modernized Pier 124 Loads Its Largest Ship

THE NEWLY MODERNIZED Pier 124 in South Philadelphia loads the Tamesis, the largest ship ever handled by the pier. Loaded coal cars at the \$41 million facility are pushed up a ramp where they are turned upside down. This releases the coal into the shiploader conveyor system. Capacity will be 10 million tons yearly when modernization is complete in 1983.

Coal Issues Are Likely To Be Clouded in Congress

By Steve Marcy

WASHINGTON — The 98th Congress is poised for the same stalemate and deadlock that afflicted the 97th.

Congressional preoccupation with budget deficits, Social Security insolvency and spending for defense and social programs will crowd out the coal industry's agenda of slurry pipelines, Clean Air Act reform, port improvements, natural gas deregulation, increased energy leasing and railroad rate reform. At least that's the worry of those espousing the industry's cause on Capitol Hill.

Industry lobbyists fear that a stronger Democratic hold on the House, coupled with the message to toe the party line as expressed by booting former Texas Democrat Phil Gramm off the Budget Committee,

could lead to severe congressional confrontations with the White House. The situation could deteriorate into two years of government by veto.

The only chance is to strike early on the industry agenda before the combatants become too entrenched.

Push For Slurry

That's exactly what Rep. Morris Udall, D-Ariz., and Sen. J. Bennett Johnston, D-La., have promised the industry they will do for legislation granting eminent domain for coal slurry pipeline rights of way.

Despite their inability for the fourth straight year to bring the coal slurry issue to a House floor vote, coal lobbyists are confident that the strength of the issue — shown by approval of one Senate and three House committees in the last Congress —

Question of Coal At Heart of B.N. Move for El Paso

By Nick Snow

COAL RESERVES and transportation played a sufficiently big part in deciding whether Burlington Northern Inc. would successfully acquire control of El Paso Co. that it required a landmark federal agreement to diffuse antitrust challenges.

El Paso initially opposed the offer on antitrust grounds. It was soon joined by Texas Atty. Gen. and Governor-elect Mark White, who sued in federal court charging that a B.N. acquisition of El Paso would put the rail carrier, already a dominant figure in coal transportation to the Lone Star State, in possibly too strong a position. The state had already sued the rail carrier over coal transport rates it charges the City of San Antonio.

It was only after Burlington Northern assured the U.S. Justice Department's antitrust division that it would sell any El Paso coal holdings acquired in the takeover that federal antitrust officials gave a preliminary nod of approval to the transaction. "The agreement, while an unusual solution to the potential problems, is particularly appropriate in the circumstances presented here... where easily identifiable assets capable of simple divestiture are involved," Justice said in announcing the agreement.

Shortly thereafter, the two companies agreed to merge and dropped lawsuits filed during the battle. The Texas state action was not immediately withdrawn; however, in the wake of last week's announced merger, attorneys from both companies and the state were conferring to determine that state antitrust concerns would be resolved.

Focus on Reserves

Federal antitrust officials apparently zeroed in on Northern Plains reserves in their considerations. Weeks before the offer was made, Interior Secretary James Watt had announced that his agency would not lease any more tracts to energy companies that were railroad subsidiaries. It was the issue of transportation, however, that figured prominently in the Texas lawsuit. Foster Corwit, an analyst for Dean Witter Reynolds who follows El Paso, said transportation may also have attracted Burlington Northern in the first place: "In-

(Continued on page 4)

will ensure its adoption. But it must clear the parliamentary road blocks thrown in its way by the railroads in the last Congress.

"They're (railroads) fighting a delaying action," says one lobbyist, convinced he sees the final throes of an opponent whose defeat is inevitable. Congress has not liked the greed with which the railroads have increased their rates under the Staggers Act. Rail industry behavior will force Congress to aid establishment of coal pipelines to give railroads competition.

The industry might have to fight a holding action of its own on reforming the Clean Air Act. Expectations of loosening its standards and procedures two years ago proved to have underestimated the strength of the environmental movement.

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HOW THE NCA PROJECTS 1983 SUPPLY AND DEMAND

Category	(millions of tons)			Percent Change 1983/82
	1981 Final	1982 Prelim.	1983 Forecast	
Domestic Consumption				
Electric Utilities	596	590	615	+4.2
Coking Coal	61	41	50	+22.0
General Industry and Retail	69	72	75	+4.2
Total Domestic Markets	726	703	740	+5.3
Exports To				
Canada: Steam	12	12	11	-8.3
Metallurgical	6	6	6	—
Total	18	18	17	+5.6
Overseas: Steam	33	26	25	-3.8
Metallurgical	59	62	55	-11.3
Total	92	88	80	-9.1
Total Exports	110	106	97	-8.5
Total Consumption	836	809	837	+3.5
Consumer Stockpiles				
Net Change	-20	+12	0	—
Total Demand	816	821	837	+1.9
Production ¹				
East	547	550	557	+1.3
West	268	270	280	+3.7
Total U.S.	815	820	837	+2.1
Imports	1	1	0	—
Total Supply	816	821	837	+1.9
Coke Imports	1	1	—	—

¹Less than 500,000 tons

²Marketed production — does not include 1982 production held in producer or distributor stockpiles.

Source: National Coal Association

National Coal Association Sees Slow Start For 1983 Before Shallow Dive is Arrested

WASHINGTON — Large stockpiles and continuing recession in the first half of 1983 will prompt coal users to work off inventories rather than take new deliveries, according to the National Coal Association's annual forecast.

"Coal production began to drop in the last half of 1982 and is expected to continue to be dampened in 1983 as these stockpiles are reduced," the NCA said.

But the economy should begin to recover and coal stockpiles dwindle enough for the business to pull out of its shallow dive and push production 17 million tons above the 820 million tons produced in 1982.

The NCA said in an earlier statement that the economy was "apparently" headed into a period of gradual, sustained growth that indicates the industry's "long-term growth remains bright." NCA quoted a Bankers Trust Co. analysis stating that "fuel-switching will continue to play a major role" as "coal fired and nuclear power plants continue to make inroads in the industrial and electric utility markets."

Differs with EIA

The 837 million tons the NCA expects to be produced in 1983 should match total demand, including exports. That fails to

square with the forecasts of the Department of Energy's Energy Information Administration, which is setting it at 850 million tons.

John Todd, director of the short-term energy division for the Energy Information Administration, said the difference lies in varying assumptions about electricity use, with EIA predicting a larger increase from a rebounding economy. EIA's underlying assumptions, which are prepared for it by Data Resources Inc., are for 2.9 percent growth in gross national product for 1983.

Basing coal use and other energy projects on growth in the gross national product remains a valid predictor over the long-term, but it can be deceiving in the short term. That's because "manufacturing activity and GNP must grow together in some way over long sweeps of history," Todd says.

"This last year, we had GNP going down by 2 percent, disposable income going up by 2 percent and manufacturing activity going down by 8 percent," a combination which makes energy use predictions highly risky, Todd says.

With industrial activity performing at levels not seen since the Depression, "what you find is that (de-

mand for) industrial natural gas, industrial fuels — those kinds of things — was just killed," Todd says, explaining why coal use was even lower than the already bad economic conditions suggested.

Predict Upsurge

For 1983, EIA is still subscribing to Data Resources' economic models. They predict an upsurge in electricity and other energy use brought on by a strengthening economy. Those models predict a 5 percent increase in coal-fired electrical generation for 1983, working out to a 4.6 percent increase in coal used by electric utilities this year compared to 1982.

NCA's 1983 utility consumption forecast is 615 million tons, 25 million more than 1982's 590 million tons. It bases the minor upturn on an expected 3 percent gain in electricity sales for 1983, following a 2 percent generation decrease during 1982.

The NCA production forecast by region shows the West continuing to creep into the East's market share during 1983. The East should produce 557 million tons compared to 280 million tons in the West. The East-West figures for 1982 were 550 million tons versus 270 million tons.

Total exports for 1983 should reach 97 million tons in 1983, 17 million of them going to Canada. The coal group expects the final 1982 figure to reach 106 million tons, 2 million tons more than it had forecast last fall.

The expected boom in steam coal exports overseas has been slow in coming. The NCA expects 1983 overseas shipments of 55 million tons of metallurgical coal compared to 25 million tons of steam coal, although some of the metallurgical coal might flow into steam uses. However, 11 million of the 17 million tons going to Canada will be steam coal.

Industrial and retail sector coal use should remain constant in 1983 after a 2.1 percent drop in 1982. — Steve Marcy

Despite a Number of Bright Spots in U.S. Coal

Most Regard a Significant Rebound in 1983 as Unlikely

(Continued from page 6)
of its members had converted to coal 19 generating units with name plate capacity of 3,885 megawatts. Nine other utilities were in the process of converting a total of 26 units with 5,890 megawatts capacity. Twelve more were said "likely to convert" 35 generating units with 4,089 megawatts capacity.

A check of the EEI list by *Coal Industry News* revealed that all 18 units in the first group have converted to coal, although the total capacity was less due to the conversion process.

While utility conversions proceeded, little has happened on the industrial side. A new generation of fluidized bed combustion systems could change this, however.

Currently in the shakedown test period at a large Amarillo, Texas, meat packing plant, one new system, the Wormser Grate, is designed to generate 70,000 pounds of process steam an hour along with 1.25 megawatts of electricity. "It's looking good after the normal startup problems. It's been running pretty good in the last couple of weeks and we expect to have it up to full load by the end of the month," said Walt Beckwith, senior project engineer for IBP Inc. which owns the packing plant.

Other Projects

Another technological push is TRW's new coal combustor, said to be in the last development stage of a coal-burning retrofit for oil and gas-fired boilers, furnaces and process heaters.

Elsewhere, Girts Krumins, president of Colorado-Ute Electric Association, said the Electric Power Research Institute has invited it to submit preliminary designs for a demonstration power plant that

would aim to remove pollutants from stack gases using low-grade fuels including coal, wood, solid waste and other refuse.

The New Mexico Institute of Mining and Technology reports receipt of a patent for a modern chimney sweep designed to remove tiny particles from coal-fired generating plants through application of atmospheric physics.

And Georgia Institute of Technology is laying claim to an electrochemical membrane cell that "may remove sulfur from the coal combustion process with equipment one-tenth as expensive as conventional scrubbers."

But while the advent of new technologies hints at better usage, most coal companies, taking a hard look at the economic facts of life, see little reason for optimism this year.

Points to Recession

"In light of the current economic recession and lowered demand for electricity, we believe there is little chance for substantially increased production of coal during 1983, particularly during the first 6 months," observes Consolidation Coal Co., the nation's number two producer. "The Consol work force is working at about 15 percent below 1981 levels. Employment is not expected to increase substantially during 1983 unless a turnaround occurs in the economy which could bring improvements in production and work force numbers possibly in the second half of the year."

A spokesman for the top producer, Peabody Coal Co., said this "looks like a year where the coal industry will be tied very closely to the economy. We see the early part as rather weak. The latter part will depend on the general economy.

We don't see anything very dramatic in the form of a turnaround. This could change with an atypically cold winter where utilities have to draw down more coal from inventory, but this hasn't happened thus far."

Pittston, the nation's seventh largest producer in 1981, sees no reason to change its bearish outlook expressed last October. A company spokesman said, "We expect this will be a very difficult year for coal, especially difficult for exports. (Pittston is the largest coal exporter.) In our discussions with customers, we do not see a real turning-around this year. Maybe it could come, if there should be a substantial turnaround early, but we see no signs of that."

Valley Industries, Inc., which operates a medium-size mine at Monroeville, W.Va., is as optimistic as Merrill Lynch's Bradford in its outlook for the year. Patrick J. Gilligan, president, said his S.S. "Joe" Burford mine will concentrate its marketing efforts in steam coal for domestic utilities, noting that coal conversion efforts in the Northeast and Middle Atlantic states are expected to provide the only new markets.

Wyoming Hit, Too

Even the booming Wyoming region faces coal field unemployment. Richard W. Jones, staff coal geologist for the Wyoming Geological Survey, pointed out that layoffs in the state's southern and western sections had brought the total of out-of-work coal miners to about 700.

Equipment makers and suppliers to the industry are really hurting and most do not see things getting any better this year. Those

companies that were able to maintain some semblance of order in their sales generally reported the sales were for repairs or replacement parts.

A spokesman for Bucyrus-Erie Co. said that "nobody here in South Milwaukee is all that bullish. We'll come out with our results for 1982 around the 25th or 26th of the month at which time we'll probably have something to say about 1983. But we're not out in the streets celebrating."

Marion Power Shovel, a division of Dresser Industries Inc., has much the same attitude: "We're going along with the rest of the industry as viewing 1983 as a difficult year for coal mining. There should be a steady improvement as the year progresses, but we don't see it getting a lot better early on based on our contracts with customers," a spokesman said.

A more positive view is offered by C.A. "Tink" Campbell Jr., president and chief executive officer of Goodman Equipment Corp.: "These are very interesting markets because we are in very interesting times. We have great confidence in the future of U.S. mining and mining worldwide because of two reasons.

"First, the mined product is critical and will continue to be. Second, mining companies need productivity-oriented equipment.

Thus, we are optimistic although the markets probably won't turn upward until 1984. That means that the markets will be about the same as 1982, and that's how we've been planning at Goodman for 1983," he told *Coal Industry News*.

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FACTS & FIGURES

Domestic

	WEEKLY				MONTHLY		
	1/1/83	12/25/82	1/2/82		10/82	9/82	10/81
Production				Bituminous and Lignite			
Bituminous, recent week	9,133	11,927	15,258	Consumption	46,248	48,332	54,660
Bituminous, year to date	819,775	818,352	—	Electric power utilities	170,181	164,953	165,182
Anthracite, recent week	73	65	56	Coal user stocks of coal			
Anthracite, year to date	4,225	5,423	—	Electric power utilities	5,992	5,896	5,791
Railroad carloadings				Anthracite			
Bituminous, recent week	61,071	81,190	93,258	Consumption	81	67	95
Bituminous, year to date	5,521,947	5,632,698	—	Electric power utilities			
Anthracite, recent week	33	36	226	Coal user stocks of coal			
Anthracite, year to date	9,766	17,612	—	Electric power utilities			

Production data in thousands of short tons.

Source: U.S. Dept. of Energy, Energy Information Administration—Weekly Coal Report.

Note: Data given in thousands of short tons.

Source: U.S. Dept. of Energy Information Administration—Weekly Coal Report.

	WEEKLY				MONTHLY		
	1/1/83	12/25/82	1/2/82		10/82	9/82	10/81
Production by states, bituminous and lignite				Coal User Production			
Eastern				Major district users:			
Alabama	281	385	420	Electric utilities			
Georgia	—	—	—	(Mil. Kwh.)			
Illinois	647	887	1,218	Monthly	96,779	96,869	110,122
Indiana	318	436	475				
Kentucky:				Price indexes			
Eastern	1,429	1,571	2,105	Bituminous Coal and Lignite	11/82	10/82	7/82
Western	393	538	750	Primary Products	105.1	105.0	104.5
Total, Ky.	1,822	2,109	2,855	Prepared	103.4	103.9	103.9
Maryland	42	58	60	Steam electric utilities	104.7	104.6	104.1
Ohio	403	553	615	North Appalachia	105.7	105.2	104.7
Pennsylvania	817	1,120	2,075	Spot	102.9	102.3	104.0
Tennessee	85	116	271	Contract	N.A.	N.A.	96.6
Virginia	414	567	875	South Appalachia	102.6	102.5	104.6
West Virginia	1,508	1,862	1,980	Contract	99.4	99.3	96.6
Total, Eastern	6,337	8,093	10,844	Midwest	110.2	109.5	109.3
Western				Contract	111.6	110.8	110.6
Alaska	8	12	6	West	109.4	109.1	105.1
Arizona	117	160	135	Contract	109.4	109.1	105.1
Arkansas	2	3	6	Metallurgical/coke producer	101.6	101.9	102.2
Colorado	202	276	410	High volatile	101.6	101.9	102.1
Iowa	6	13	16	North Appalachia	97.2	97.2	99.7
Kansas	10	13	16	Contract	N.A.	97.2	N.A.
Missouri	53	73	85	South Appalachia	101.5	101.8	102.0
Montana	297	407	675	Contract	100.7	100.7	100.7
New Mexico	186	255	270	West	103.4	104.2	102.4
North Dakota	196	269	250	Low volatile			
Oklahoma	57	79	52	North Appalachia	103.0	105.7	97.6
Texas	350	480	586	Contract	104.2	104.4	105.2
Utah	170	233	160	South Appalachia	100.8	102.7	103.3
Washington	49	67	98	Contract	91.2	99.5	95.9
Wyoming	1,093	1,498	1,650	Midwest	102.8	102.6	106.6
Total Western	2,796	3,834	4,414	Unprepared (raw)	102.4	102.2	106.9
Total, United States	9,133	11,927	15,258	For preparation at other establishments	N.A.	N.A.	N.A.
				For use without preparation	N.A.	N.A.	N.A.

Short tons (000).

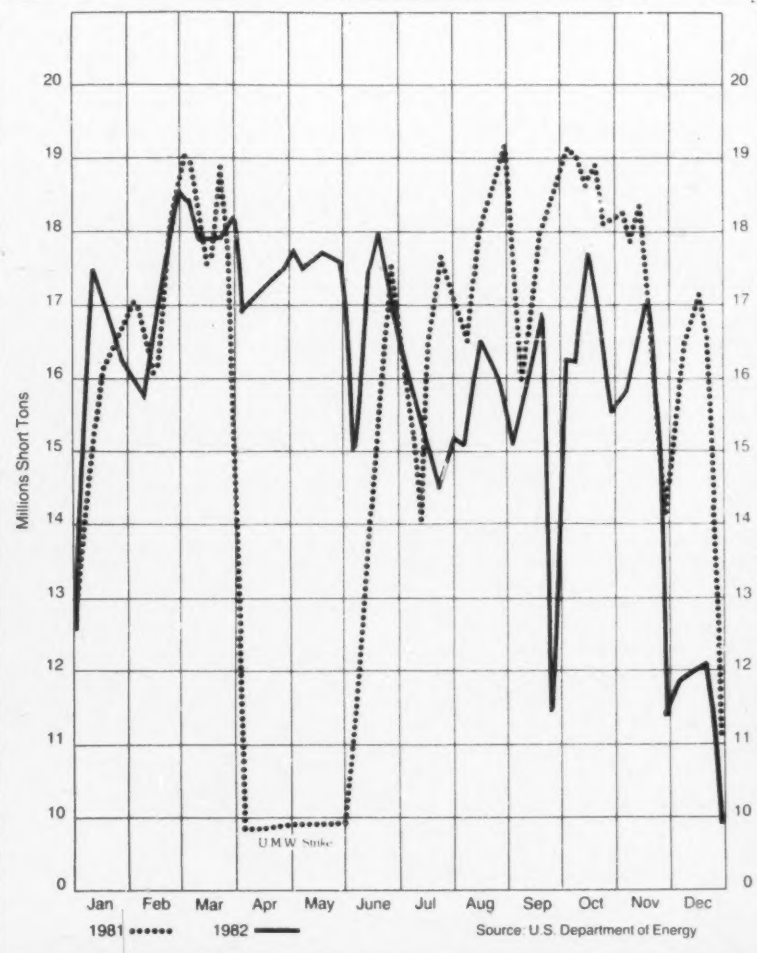
Source: U.S. Dept. of Energy, Energy Information Administration—Weekly Coal Reports.

	MONTHLY				MONTHLY		
	11/82	10/82	11/81		11/82	10/82	11/81
Coal Labor				Anthracite	154.0	153.8	153.8
All employees				Primary products	152.6	152.5	152.5
Coal Mining	222.0	224.3	232.2	Prepared anthracite shipped	154.7	154.5	154.5
Bituminous & Lignite	218.7	221.0	248.7	Stove	151.7	151.1	151.3
Production employees				Chestnut	151.5	150.9	150.9
Coal mining	179.9	181.9	209.3	Pee	160.3	160.3	160.3
Bituminous & Lignite	177.0	179.0	206.2	Buckwheat no. 1	149.0	149.0	149.0
Hours, weekly average				Buckwheat no. 2	160.8	160.8	160.8
Coal mining	38.3	39.1	42.7	Buckwheat no. 4	143.9	143.9	143.9
Bituminous & Lignite	38.2	39.1	42.7	Buckwheat no. 5	112.0	112.0	112.0
Earnings, hourly average				N.A.—Not Available			
Coal mining	13.09	12.93	12.38				
Bituminous & Lignite	13.13	12.97	12.41				
Earnings, weekly average							
Coal mining	501.35	505.56	528.63				
Bituminous & Lignite	501.57	507.13	529.91				

Source: U.S. Dept. of Labor, Bureau of Labor Statistics—Employment and Earnings.

Exports & Imports

	Quantity in short tons			Dollar Value		Avg. Value per short ton		
	11/82	10/82	11/81	11/82	10/82	11/81	11/82	10/82
Bituminous coal, low volatile blends to make coke No. 5213110								
Belgium	192,408	282,248	411,089	12,436,106	17,141,553	18,522,793	64.63	60.73
Brazil	260,833	334,334	311,902	14,465,186	17,256,075	12,770,505	55.45	51.61
Canada	387,906	937,675	615,744	26,399,452	62,102,630	37,571,426	68.05	66.23
France	218,893	381,287	751,882	11,175,562	21,711,632	37,940,863	51.05	56.94
Germany, F.R. (West)	—	76,931	197,256	—	4,069,526	9,881,736	—	52.89
Italy	543,306	776,407	966,490	26,001,417	39,266,107	46,432,039	47.85	50.57
Japan	1,315,219	1,533,082	2,770,512	78,643,079	94,259,202	163,409,807	59.79	61.48
Netherlands	147,170	338,082	259,010	9,257,723	17,141,553	16,061,209	62.90	50.62
Spain	223,531	193,856	338,241	10,388,575	9,813,314	15,033,023	46.47	50.62
Sweden	79,381	314,657	153,121	3,704,675	17,064,977	8,796,082	46.66	54.23
United Kingdom	—	—	301,823	—	—	17,895,821	—	58.62
Yugoslavia	76,896	193,396	369,955	5,000,060	10,271,367	22,083,450	65.02	53.11
Total, above	3,445,547	5,362,466	7,447,035	197,471,837	310,097,958	401,208,554	57.31	57.82
Total, other nations	524,127	508,235	662,493	31,205,810	28,864,736	40,279,774	59.53	56.79
Total, all nations	3,969,674	5,870,701	8,109,528	228,677,647	338,962,697	441,488,328	57.80	57.73

LATEST U.S. PRODUCTION
Estimated Bituminous Coal and Lignite

BITUMINOUS COAL and lignite production totaled 9.133 million short tons in the week ending Jan. 1, a nearly 24 percent decline from the 11.927 million tons produced the week ending Dec. 25. Production from the corresponding week a year ago was 12.756 million tons, 27.4 percent more than the week ending this Jan. 1, the Energy Information Administration reported. Preliminary totals for 1982 show 824.0 million tons being produced, including anthracite, compared to 1981's 824.8 million tons.

	Quantity in short tons			Dollar Value		Avg. Value per short ton		
	11/82	10/82	11/81	11/82	10/82	11/81	11/82	10/82
Bituminous coal, others								
No. 5213120								
Belgium	131,159	85,225	157,700	4,959,468	2,840,204	6,419,772	37.81	43.54
Canada	1,609,983	1,835,915	1,437,170	80,250,571	93,685,989	67,605,686	49.84	51.02
China, Taiwan	123,825	181,709	168,429	5,301,886	8,122,406	6,547,265	42.81	44.70
Denmark	189,870	427,459	307,912	10,452,508	18,807,417	12,932,792	55.05	43.99
Finland	185,207	47,775	203,132	7,658,434	1,857,184	9,516,985	41.29	38.87
France	520,446	469,267	260,576	22,754,991	21,663,008	12,017,736	43.72	46.16
Germany, F.R. (West)	97,340	210,620	145,896	6,120,068	11,094,094	7,304,804	62.87	52.67
Italy	424,096	282,333	365,466	22,191,398	13,985,579	18,267,101	52.32	49.53
Japan	143,625	271,080	371,113	7,115,678	13,796,829	18,367,620	49.54	50.89
Netherlands	175,804	184,416	148,600	9,515,151	8,908,077	7,061,559	54.12	48.30
Spain	177,370	106,522	358,479	7,433,864	4,032,484	16,192,632	41.91	37.85
Total, above	3,778,727	4,082,321	3,924,473	183,753,817	198,793,241	182,223,834	48.62	48.69
Total, other nations	251,052	222,334	304,524	10,948,814	11,178,083	15,423,302	43.61	50.27
Total, all nations	4,029,779	4,304,655	4,228,997	194,702,631	209,971,324	197,647,136	48.31	48.77

Lignite No. 5213130								
Total, all nations	362	809	2,061	63,153	99,555	363,347	174.45	123.05

Coal coke for use as fuel								
No. 5213148								
Total, all nations	59,774	56,567	54,194	3,638,655	3,420,940	5,353,890	60.87	60.47

Petroleum coke, except calcined No. 5213150								
Canada	128,802	47,035	28,732	4,712,130	1,919,871	1,154,413	36.59	40.81
Japan	417,427	273,423	183,970	16,696,182	10,271,456	8,295,103	39.99	37.56
Netherlands	113,735	127,507	66,556	2,569,874	5,575,563	3,531,310	22.59	43.72
Total, above	659,964	447,965	259,258	23,978,186	17,766,892	12,980,826	36.33	39.66
Total, other nations	497,313	618,963	106,528	13,808,271	20,149,716	6,259,352	27.76	32.55
Total, all nations	1,157,277	1,066,928	365,786	37,786,457	37,916,608	19,240,178	32.85	35.53

Compositions for fuel								
No. 5213160								
Total, all nations	32,681	495	3,004	1,037,637	41,090	161,163	31.75	83.01

Anthracite No. 5213170								
Korea Rep. (South)	34,478	77,180	114,380	1,220,800	2,413,900	7,024,963	32.56	31.28
Total, all nations	106,603	120,862	171,392	8,054,223	5,835,940	10,877,393	58.79	48.28

Rail Units Merge as Seaboard System

JACKSONVILLE, Fla. — The Seaboard Coast Line and Louisville and Nashville Railroads merged, becoming Seaboard System Railroad Inc.

Richard D. Sanborn, president and chief executive officer, said the merger and new name will improve coordination of the Seaboard 13-state rail network, which also includes the Clinchfield and the West Point Route, as part of the CSX Corp.

Family Lines Rail System, the name previously used to describe the rail system, was discontinued.

Sanborn said the combined rail system will function as a consolidated unit, offering shippers the conveniences of single-

rail service between such points as Chicago and Florida with a single routing designation — SBD.

Along with the merger and redesignation, Sanborn said, came four key appointments in Seaboard System's operating department in Jacksonville, effective Jan. 1:

• W. Eugene Gilstrap, general manager of staff in the operating department, became chief transportation officer, succeeding Charles F. Kelly who retired after more than 44 years of service.

• C. Eugene Freeman, general superintendent of terminals, became general manager of transportation, succeeding M.L.

Wadsworth who also retired after more than 44 years with the company.

• Garland F. Chick, superintendent in Jacksonville, succeeded Freeman as general manager of transportation.

• And Wilbur G. Merit, Atlanta superintendent, succeeded Chick in that role in Jacksonville.

In addition, two other division chiefs were appointed: Henry J. Pigge as Savannah, Ga., superintendent, succeeding William A. Satterwhite who retired after 37 years; and John H. Eaton as Louisville, Ky., superintendent, succeeding C. Dewey Mosley who previously became Mobile, Ala., superintendent.

COAL INDUSTRY PEOPLE

John R. Halberda is new marketing and sales director for the Mining Tool group of Kennametal Inc. and assumes responsibility for all marketing and sales activities for the group's mining, construction tools as well as snow plow blades, specialty carbide components and Kennametal Casting products.



HALBERDA



PIROZZOLO

Jack O. Pirozzolo was appointed director of marketing and sales for Twin City Shipyard Inc. of St. Paul and is responsible for promotion, advertising and sales of its marine products, including barges, dredges and specialized floating vessels.

LeRoy J. Edwards has joined MAPCO's Coal division as regional sales manager in Baltimore.

statistics, and Marge Myhre to executive assistant to the president.

Dr. Ralph M. Perhac, who is director of the Environmental Assessment department at the Electric Power Research Institute, has been appointed to the federal Acid Precipitation Task Force by President Reagan.

Richard W. Bayer has been appointed assistant manager of planning in the coal division of Bethlehem Mines Corp.

Mining and Reclamation Council of America announced the promotions of Lauri Zell to director of governmental affairs and Moya Phelless to director of public affairs.

The Pittston Co. elected Richard B. Steinmetz, Jr. vice president, administration.

Union, Missouri Pacific Execs Reassigned

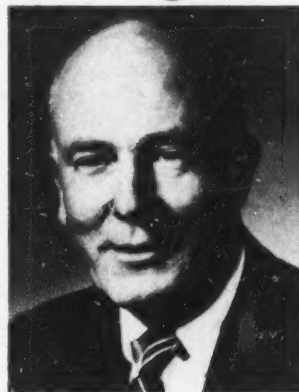
OMAHA — John C. Kenefick, president of Union Pacific Railroad since 1971, was elected chairman and chief executive officer of both Union Pacific and Missouri Pacific railroads.

R.G. Flannery, who has been Missouri Pacific's president since June 1982 and, prior to that, president of Western Pacific Railroad, became president and chief operating officer of U.P. and M.P.

The moves, announced by Union Pacific Corp. Chairman James H. Evans, were part of the first organizational steps to implement the recently approved merger of the Union, Missouri and Western Pacific lines.

Three other officers were elected to serve U.P. and M.P.: Walter P. Barnett, previously vice president of traffic for U.P., became executive vice president for marketing and sales. George A. Craig, formerly senior vice president for marketing at M.P., was named senior vice president for marketing and sales. And C. Barry Schaefler, U.P.'s vice president for law, was appointed executive vice president for law and finance.

Kenefick said Union Pacific's headquarters will remain in Omaha and Missouri Pacific's in St. Louis. He and Flannery will have offices in both cities. Western Pacific will remain a U.P. subsidiary.



JOHN C. KENEFICK
...becomes chairman

Most Coal-Related Issues Follow Trend Up

NEW YORK — The overwhelming majority of stocks in Coal Industry News's list of coal-related stocks was on the up side of the week ending Jan. 7 as these issues took part in a general market buoyancy.

North American Coal posted a gain of 1-1/8 on the week. This was traced to market reports of improved sales vs. the year-ago period. However, Westmoreland Coal, which also was tabbed as having an improved situation, slipped 1/4.

Bethlehem Steel dipped 1/4 as the company, the nation's number two steel producer, announced plans for pulling out of the bulk of its steel making operations at Lackawanna, N.Y., and Johnstown, Pa.

Among the equipment makers, National Mine Service fell 1-1/8 after it was announced that the board of directors had accepted an offer from Anderson Strathclyde, a Scottish mining equipment maker, for up to 51 percent of the American company's shares at \$12.50 a share.

Railroad stocks all ran higher. The Dow Jones Transportation Index, generally considered to be a bellwether for the entire market, rose to a record of more than 469 in recent trading.

Burlington Northern was particularly strong based on its now successful bid to take over 51 percent of El Paso and thus strengthen its position in natural resources, particularly natural gas and oil.

company	100s	high	low	last	net chg	First
Amx	38409	25%	21%	24%	+2%	Fluor
AEHw/a	12092	66%	60%	65%	+1%	Fluor
AshOib	2328	30%	28%	30%	+1%	Fluor
BethStc	12573	23%	19%	38%	-1%	Fluor
Boring/d	14845	35%	33%	35	+1%	Fluor
DuPont/e	24557	41%	35%	40%	+4%	Fluor
EastGF	3288	w24%	21%	23%	+2%	Fluor
ElPas	12152	24	22	23	+1%	Fluor
EqLif	1472	15	14%	14%	-1%	Fluor
Exxon/g	48154	31%	28%	30%	+%	Fluor
GenElh	15508	98%	91%	96%	+1%	Fluor
Gracel	5870	41	38%	40%	+2%	Fluor
GulOlu	11970	31%	29%	30%	+1%	Fluor
Hama/j	2173	22	18%	21%	+3%	Fluor
KarMlc	11239	31%	27%	30	+1%	Fluor
MAPCO	5222	25%	23	25	+1%	Fluor
Mobi	20470	27%	24%	26%	+1	Fluor
MunPark	998	27%	25%	27	+1%	Fluor
Newm/l	5715	w59	53%	58%	+3%	Fluor
NACol	175	29	24%	28%	+4	Fluor
OccPetm	13523	21%	19%	20%	+1%	Fluor
PacWm	4775	21%	20%	21%	+%	Fluor
PhilPet	23542	35%	32%	34	+1%	Fluor
Pittstn	14487	17%	13%	16%	+3	Fluor
ShellO	5807	42	35%	41%	+4%	Fluor
SIOClO	24053	45%	40%	44%	+5	Fluor
StoOchp	22923	41%	35	40%	+4%	Fluor
SunCo	4102	34%	30%	33%	+2%	Fluor
Texaco	27501	31%	30%	31%	...	Fluor
TexUtl	19396	23%	22%	22%	-1%	Fluor
USSteel	15111	22%	20%	22	+1	Fluor
UtaPL	2071	21%	20%	21%	+1%	Fluor
Waltm	4543	37%	35%	36	-1%	Fluor
West	480	19%	19%	19%	-1%	Fluor
William/q	9324	19%	16%	18%	+1%	Fluor
Suppliers						
ACF	2346	34%	32	34	+1%	Fluor
AllCh	4473	12%	9%	12%	+2%	Fluor
BucyEr	6686	16%	14%	16%	+1%	Fluor
CampT	20366	48%	40	46%	+6%	Fluor
Chrysr	39322	18	15%	16%	-1%	Fluor
CmbEn	3530	36%	32%	36	+3%	Fluor
DowCh	27746	w29%	25	29	+3%	Fluor
Dravo	1663	13%	12%	12%	+%	Fluor
Drestr	25404	22	18%	21%	+1%	Fluor
FMC	3086	34%	31%	33%	+1%	Fluor

WHERE & WHEN

1983

JANUARY

19-21 — Slurry Pipeline Transport, a short course, Rowdway Inn, Provo, Utah. For further information, contact Richard W. Hanks Associates, Inc., 495 East 1010 South, Orem, Utah 84057 or telephone 801-225-6716 or 801-378-8236.

24-26 — Combustion Instrumentation, short course, New Jersey. For further information, contact Rosanne Razzano, The Center for Professional Advancement, Dept. NR, P.O. Box H, East Brunswick, NJ 08816-0257 or telephone 201-249-1400 ext. 269.

30-Feb. 3 — Energy-sources Technology Conference and Exhibition, Hyatt Regency Houston Hotel, Houston, Texas. For further information, contact Frank Demarest, ETCE Exhibits, P.O. Box 59489, Dallas, Texas 75229 or telephone 214-247-1747.

31-Feb. 4 — Society of Explosives Engineers 9th annual conference on explosives and blasting techniques, Dallas North Park Inn, Dallas, Texas. For further information, contact Dr. Calvin J. Konya, Executive Director, Society of Explosives Engineers, P.O. Box 185, Montville, Ohio 44064 or telephone 216-474-8436.

FEBRUARY

14-17 — Stock Sampling and Ambient Air Monitoring, short course, New Jersey. For further information, contact Rosanne Razzano, The Center for Professional Advancement, Dept. NR, P.O. Box H, East Brunswick, NJ 08816-0257 or telephone 201-249-1400 ext. 269.

20-26 — Accelerating Philippine Coal Development Through U.S. Technology, Philippine Plaza Hotel, Manila, Philippines. Sponsored by the Ministry of Energy, Philippines and the Trade and Development Program of the United States. For further information, contact AER Enterprises, P.O. Box 454, East Brunswick, New Jersey 08816 or telephone 201-254-6930.

23-25 — Sulfonation, short course, New Jersey. For further information, contact Rosanne Razzano, The Center for Professional Advancement, Dept. NR, P.O. Box H, East Brunswick, NJ 08816-0257 or telephone 201-249-1400 ext. 269.

26-March 2 — Control 84, Mineral/Metallurgical Processing, Los Angeles, Calif. Sponsored by the Society of Mining Engineers/AIME and the Metallurgical Society/AIME. For further information, contact J.A. Herbst, University of Utah, Department of Metallurgy, 412 Browning Bldg., Salt Lake City, Utah 84112.

28-March 1 — Third annual Annu Winter Fire School, Beaumont Fire Department, Beaumont, Texas. For further information, contact the Enrollment Coordinator, Annu Training Services, Marinette, Wis. 54143 or telephone 715-735-7411.

28-March 2 — ET'83, the 10th annual Energy Technology Conference and Exposition, Sheraton Washington Hotel, Washington, D.C. For further information, contact Event Manager, Government Institutes, Inc., 966 Hungerford Drive, 24, Rockville, Md. 20850 or telephone 301-251-9250.

MARCH

2-3 — Massachusetts Institute of Technology Sea Grant Seminar, MIT, Cambridge, Massachusetts. For further information, contact Beth Harding, Communications Manager, Massachusetts Institute of Technology, Room E38-366, 77 Massachusetts Ave., Cambridge, Mass. 02139 or telephone 617-253-7041.

3-4 — Third annual Annu Winter Fire School, Beaumont Fire Department, Beaumont, Texas. For further information, contact the Enrollment Coordinator, Annu Training Services, Marinette, Wis. 54143 or telephone 715-735-7411.

5-6 — Longwell Mining short course, Atlanta Hilton, Atlanta, Georgia. Sponsored by the Society of Mining Engineers of AIME. For further information, contact Darlene D. Daley, Society of Mining Engineers of AIME, Caller No. D, Littleton, Colo. 80127 or telephone 303-973-9550.

6-10 — Society of Mining Engineers of AIME annual meeting, Atlanta Hilton, Atlanta, Georgia. For further information, contact Darlene D. Daley, Society of Mining Engineers of AIME, Caller No. D, Littleton, Colo. 80127 or telephone 303-973-9550.

7-8 — Third annual Annu Winter Fire School, Beaumont Fire Department, Beaumont, Texas. For further information, contact the Enrollment Coordinator, Annu Training Services, Marinette, Wis. 54143 or telephone 715-735-7411.

8-10 — Coal Production and Transportation 9th annual conference, Fairmont Hotel, Dallas, Texas. For further information, contact PLM, Inc., 50 California Street, Suite 3300, San Francisco, Calif. 94111 or telephone 415-989-1860.

9-12 — International Contractors Equipment Exposition and Conference, McCormick Plaza West, Chicago, Ill. For further information, contact Martin C. Dwyer International, Division of Clapp and Pokiak, Inc., 400 North Michigan Ave., Chicago, Ill. 60611 or telephone 312-467-4590.

10-11 — Third annual Annu Winter Fire School, Beaumont Fire Department, Beaumont, Texas. For further information, contact the Enrollment Coordinator, Annu Training Services, Marinette, Wis. 54143 or telephone 715-735-7411.

14-15 — Third annual Annu Winter Fire School, Beaumont Fire Department, Beaumont, Texas. For further information, contact the Enrollment Coordinator, Annu Training Services, Marinette, Wis. 54143 or telephone 715-735-7411.

14-18 — Solvent Extraction Technology, short course, Chicago, Ill. For further information, contact Rosanne Razzano, The Center for Professional Advancement, Dept. NR, P.O. Box H, East Brunswick, NJ 08816-0257 or telephone 201-249-1400 ext. 269.

15-18 — Slurry Transport Association 8th International Technical Conference on Slurry Transportation, San Francisco, California. For further information, contact STA 480 L'Enfant Plaza East, SW, Suite 3210, Washington, D.C. 20024 or telephone 202-554-4700.

17-18 — Third annual Annu Winter Fire School, Beaumont Fire Department, Beaumont, Texas. For further information, contact the Enrollment Coordinator, Annu Training Services, Marinette, Wis. 54143 or telephone 715-735-7411.

21-23 — Mining and Reclamation Council of America 8th annual meeting, Mayflower Hotel, Washington, D.C. For further information, contact Moya Phelless, MRCA, Suite 525, 1575 Eye Street, N.W., Washington, D.C. 20005 or telephone 202-789-0220.

21-23 — Repair and Rehabilitation of U.S. Ports, Hyatt Regency Hotel, New Orleans, La. Sponsored by the American Society of Civil Engineers. For further information, contact Elizabeth Yee Lurie, Manager, Conference Services, ASCE, 345 E. 47th Street, New York, N.Y. 10017 or telephone 212-705-7544.